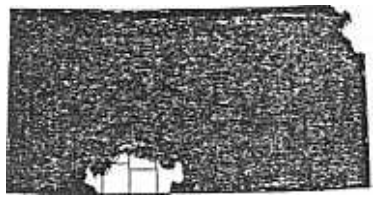
RED CLAY PRAIRIE

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:



Land Resource Area 78
Central Rolling Red Plains

2. Climate:

See climate for LRA 78
(Filed in the front of Section II-E)

3. Topography:

This site occurs on gently sloping to moderately steep uplands.

4. Soils and Hydrological Characteristics:

a. The soils of this site have clayey surfaces over calcareous and non-calcareous clayey shales. The soils are shallow to moderately deep with depth to shale ranging from 12 to 40 inches The available water capacity is low. The soils have a slow permeability. They often occur in association with gently sloping to very steep, shallow soils and exposed parent materials.

b. The soil that characterizes this site is Vernon 1/.

1/ Shallow soils mapped in the Vernon series would be placed in another series if correlated today. Only Vernon soils over 12 inches deep are in this site.

c These soils are susceptible to wind and water erosion when overgrazed. Trailing and gully erosion can be a major hazard especially on the steeper slopes.

5. Climax Vegetation:

a. The natural potential vegetation of this site is a mixed grass prairie. It is dominated by little bluestem, sideoats grama, and big bluestem which combine for 75 to 80 percent of the vegetation. Blue grama, buffalograss, hairy grama, and tall dropseed combine for 5 percent of the vegetation. Perennial forbs make up an additional 10 percent.

This site is somewhat variable in vegetative production but not so much as the "Eroded Red Clay" site. This site often has inclusions of the shallower site as well as occasional gullies or areas of exposed shale with little or no vegetation.

In its development, the vegetation on this site was greatly influenced by grazing and occasional wildfires. The grazing was predominantly by large transient herds of bison and lesser numbers of elk and antelope.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 90 percent			Forbs - 10 percent			Shrubs and Cacti - T	
	20	big bluestem		ashy goldenrod			leadplant
20	5	indiangrass		blacksamson echinacea		T	pricklypear
	5	switchgrass		broom snakeweed			yucca
				catclaw sensitivebriar			
65	55	little bluestem		dotted gayfeather			
	20	sideoats grama		heath aster			
			10	Louisiana sagewort			
		blue grama		narrowleaf stenosiphon			
5		buffalograss		nineanther dalea			
		hairy grama		purple prairieclover			
		tall dropseed		scarlet globemallow			
				slimflower scurfpea			
T		silver bluestem		western ragweed			
		perennial threeawns					

c. Invaders common to this site are annual broomweed, annual threeawn, foxtail barley, Japanese brome, little barley, sixweeks fescue, Texas croton, and woolly loco.

6. Management Implications:

This site is generally in a landscape position preferred by most grazing animals during the warm weather of the growing season. Good grazing management and livestock distribution aids are necessary to maintain the site in its most productive condition.

High preference forage species such as big bluestem, indiangrass, and catclaw sensitivebriar are difficult to maintain on this site with continuous season long grazing. With improved grazing management, these species may regain their position in the plant community.

Overgrazing with cattle rapidly reduces the tall grasses which are normally replaced by an increase in sideoats grama and little bluestem. Continued overuse may eliminate the tall grass species and eventually reduce the sideoats grama and little bluestem. Blue grama, buffalograss, silver bluestem, dropseed, and threeawns will normally dominate this site following continued overgrazing.

A little bluestem and especially sideoats grama are persistent on this site and can normally be increased with grazing management that includes proper use and periodic rests during the growing season. The taller species will recover with good grazing management where remnant plants exist.

7. Wildlife Considerations:

When maintained in good to excellent condition, this site has a good grass cover and a good selection of forbs preferred by wildlife. The lack of woody cover discourages most species from making this site their permanent residence. However, quail, deer, jackrabbits, songbirds, and other small animals frequently utilize this site for feeding and loafing.

The lack of woody cover and moderate slopes lends this site to frequent visits by such predators as hawks, owls, and occasional coyotes and badgers.

8. Other Uses and Values:

The somewhat droughty nature and its high shrink-swell soils have contributed to most of this site being maintained in rangeland. Some of the site is used for cropland but yields are generally low. Housing and commercial development does occur on this site, but reinforced foundations are necessary.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, time of burning, if fire is used, as well as growing conditions, influence annual herbage production.

	Total Air Dry Herbage	
Growing Conditions	Pounds/Acre	Kilograms/Hectare
Favorable	2,600-3,200	2,910-3,590
Normal	2,000-2,600	2,240-2,910
Unfavorable	1,200-2,000	1,340-2,240

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	12-15	.9	5-6	2.2
Good	51-75	15-20	.7	6-8	1.7
Fair	26-50	20-32	.5	8-12	1.25
Poor	0-25	32+	.3	12+	.75

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production.

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High
M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Animal Species: Cattle	Deer	Quail
annual broomweed	L	---	C
big bluestem	H	C,F	C,N
blacksamson echinacea	M	F	F
blue grama	H	F	
buffalograss	H	---	---
catclaw sensitivebriar	H	F	F
dotted gayfeather	M	F	F
hairy grama	M	---	---
heath aster	M	F	C,F
Japanese brome	M 1/	F	F
Louisiana sagewort	M	F	C,F
purple prairieclover	M	F	F
sideoats grama	H	F	C,N
silver bluestem	L	---	C,N
sixweeks fescue	L	F	F
switchgrass	H 2/	F	C,F,N
tall dropseed	M	C	C,N
western ragweed	M	F	F

1/ Has a high preference during lush growth periods.

2/ Preferred during first half of growing season

Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.

RED CLAY PRAIRIE

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Area 80A
Central Rolling Red Prairies

2 Climate:

See climate for LRA 80A
(Filed in the front of Section II-E)

3. Topography:

This site occurs on nearly level to moderately sloping uplands.

4. Soils and Hyrological Characteristics:

a. The soils of this site have clayey surfaces over calcareous and non-calcareous clayey shales. The soils are shallow to moderately deep with depth to shale ranging from 12 to 40 inches. The available water capacity is low. The soils have a low permeability. They often occur in association with gently sloping to very steep, shallow soils and exposed parent materials.

b. The soils that characterize this site are:

Vernon 1/ Owens

1/ Shallow soils mapped in the Vernon series would be placed in another series if correlated today. Only Vernon soils over 12 inches deep are in this site.

c. These soils are susceptible to wind and water erosion when overgrazed. Trailing and gully erosion can be a major hazard especially on the steeper slopes.

5. Climax Vegetation:

a. The natural potential vegetation of this site is a mixed grass prairie. It is dominated by little bluestem, sideoats grama, and big bluestem which combine for about 80 percent of the vegetation A variety of grasses and forbs contributes an additional 10 percent each.

This site often has inclusions of the shallower soils as well as occasional gullies or areas of exposed shale with little or no vegetation.

In its development, the vegetation on this site was greatly influenced by grazing and occasional wildfires. The grazing was predominantly by large transient herds of bison and lesser numbers of elk and antelope.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 90 percent			Forbs - 10 percent		Shrubs and Cacti - T
	15	big bluestem		ashy goldenrod		leadplant
15	5	indiangrass		blacksamson echinacea	T	pricklypear
	5	switchgrass		broom snakeweed		yucca
				catclaw sensitivebriar		
	50	little bluestem		dotted gayfeather		
65	25	sideoats grama		heath aster		
			10	Louisiana sagewort		
		blue grama		nineanther dalea		
		buffalograss		purple prairieclover		
10		hairy grama		scarlet globemallow		
		tall dropseed		slimflower scurfpea		
				stenosiphon		
T		silver bluestem		western ragweed		
		perennial threeawns				

c. Invaders common to this site are annual broomweed, annual threeawn, foxtail barley, Japanese brome, little barley, sixweeks fescue, Texas croton, and woolly loco.

6. Management Implications:

This site is generally in a landscape position preferred by most grazing animals during the warm weather of the growing season. Good grazing management and livestock distribution aids are necessary to maintain the site in its most productive condition.

High preference forage species such as big bluestem, indiangrass, and catclaw sensitivebriar are difficult to maintain on this site with continuous season long grazing. With improved grazing management, these species may regain their position in the plant community.

Overgrazing with cattle rapidly reduces the tall grasses which are normally replaced by an increase in sideoats grama and little bluestem. Continued overuse may eliminate the tall grass species and eventually reduce the sideoats grama and little bluestem. Blue grama, buffalograss, silver bluestem, dropseed, and threeawns will normally dominate this site following continued overgrazing.

Little bluestem and especially sideoats grama are persistent on this site and can normally be increased with grazing management that includes proper use and periodic rests during the growing season. The taller species will recover with good grazing management where remnant plants exist.

7. Wildlife Considerations:

When maintained in good to excellent condition, this site has a good grass cover and a good selection of forbs preferred by wildlife. The lack of woody cover discourages most species from making this site their permanent residence. However, quail, deer, jackrabbits, songbirds, and other small animals frequently utilize this site for feeding and loafing.

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8. Other Uses and Values

The somewhat droughty nature of this site and its high shrink-swell soils have contributed to most of this site being maintained in rangeland. Some of the site is used for cropland, but yields are generally low. Housing and commercial development does occur on this site, but reinforced foundations are necessary.

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The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, time of burning, if fire is used, as well as growing conditions, influence annual herbage production.

	Total Air Dry Herbage	
Growing Conditions	Pounds/Acre	Kilograms/Hectare
Favorable	2,000-2,600	2,240-2,910
Normal	1,600-2,000	1,790-2,240
Unfavorable	1,000-1,600	1,120-1,790

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	16-18	.7	6.5-7.5	1.7
Good	51-75	18-22	.6	7.5-10	1.5
Fair	26-50	22-45	.4	1018	1.0
Poor	025	45+	.2	18+	.5

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

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M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Animal Species		
	Cattle	Deer	Quail
annual broomweed	L	---	C
big bluestem	H	C,F	C,N
blacksamson echinacea	M	F	F
blue grama	H	F	---
buffalograss	H	---	---
catclaw sensitivebriar	H	F	F
dotted gayfeather	M	F	F
hairy grama	M	---	---
heath aster	M	F	C,F
Japanese brome	M 1/	F	F
Louisiana sagewort	M	F	C,F
purple prairieclover	M	F	F
sideoats grama	H	F	C,N
silver bluestem	L	---	C,N
sixweeks fescue	L	F	F
switchgrass	H 2/	F	C,F,N
tall dropseed	M	C	C,N
western ragweed	M	F	F

1/ Has a high preference during lush growth periods

2/ Preferred during first half of growing season.

Reference:

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